

Weekly Report

2017.04.24-2017.05.01

1. This Week

Others

- 1.having an exam of computational theory
- 2.review the vast paper and finish the review form

Wavelines

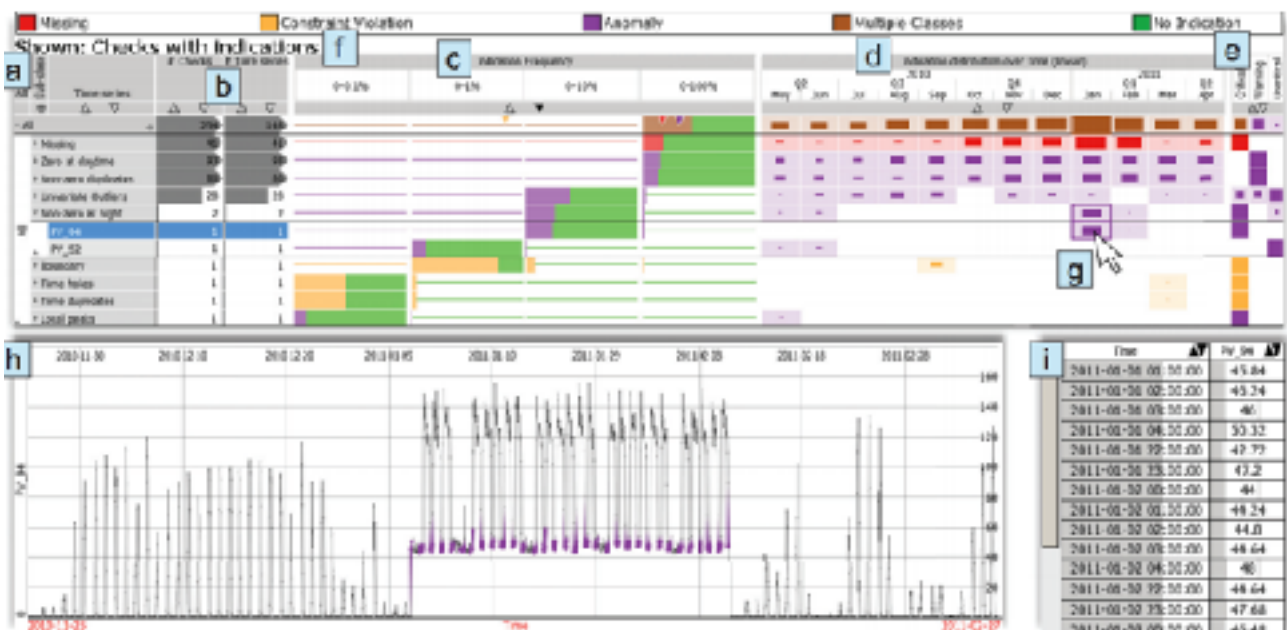
- 1.learn about the coding structure of the wavelines system from Wang Qi and learn to use SourceTree to manage git branches
- 2.read chapter 2 of the book “statistical control theory” and learn about the statical foundation of the cusum method
- 3.read several paper about temporal data.

Security Project

- 1.learn about the current condition and requirements of the security project. It is almost finished and currently the only task is to test the system. I'll keep up with this project and help Huihua do part of the coding job.

paper reading

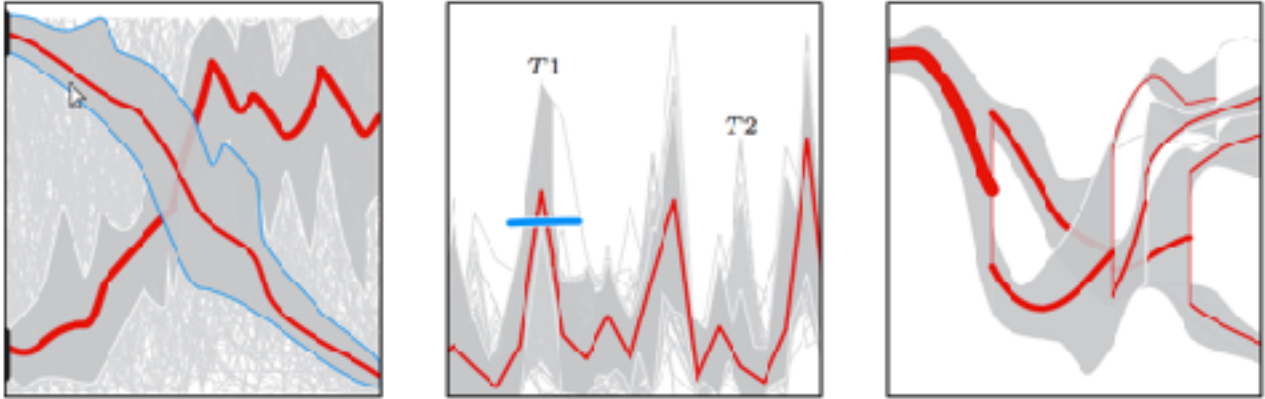
Visplause: Visual Data Quality Assessment of Many Time Series Using Plausibility Checks



This paper supports the routine assessment of data quality based on automated plausibility checks. Check of data quality is to some extent very similar to anomaly detection. This paper applies the frequently used plausibility checks and design hundreds of types of checks to manage

data quality. These hundreds of checks can be constructed as a hierarchy according to the users' requirements. As I wonder, if it is also possible to define different types of anomaly checks and construct hierarchy to group these anomalies. Because the anomaly parts we detected by the sqc methods have their statistical meaning.

Multi-Granular Trend Detection for Time-Series Analysis



This paper propose a geometric model that supports the detection of trends in time series and ensembles. Their model is based on three parameters: granularity, support-size, and duration. As I read the paper, I notice that some of the trend they notified can be concerned as abnormal trends in some specific circumstance, for example, in our electrical background. As I expected, it could be possible to involve abnormal trend detection in large-scale power grid to locate the abnormal devices with their behaviors in the power grid, since it could be no more possible to examine each time series any more.

2. TODO

- 1.treatise writing
- 2.sqc method reading
- 3.keep up with the wavelines and network security project
- 4.prepare for the group meeting presentation